

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

DOCKET FILE COPY ORIGINAL

RECEIVED

MAY 7 1996

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

May 4, 1996

Federal Communications Commission
1919 M Street
Washington, DC 20554

Reference: Rulemaking 8775 - ACTA Petition on Internet Voice

Honorable Members of the Commission:

These informal comments are submitted on behalf of the membership of the Federal Networking Council (FNC) which provide a forum for networking collaborations among Federal agencies to meet their research, education, and operational mission goals. The FNC reports to the National Science and Technology Council's Committee on Information and Communications (CIC).

Current Internet Environment:

The ACTA Petition of March 4, 1996 reveals a fundamental misunderstanding of the transmission mechanisms of the Internet and of the relationship between consumers and providers of Internet services. The Petition refers to "non-tariffed, uncertified entities" which putatively provide inter exchange services via the Internet. There are in fact no such entities nor in fact are there any inter exchange services on the existing Internet.

The notion of a specific 'service' assumes an ability to route or otherwise differentially transmit packets on the basis of content. In fact, packets across the Internet are indistinguishable during transmission. The only difference between packets used for non-voice functions such as file transfer and those used for voice communication is the software used to process the packets on the computers ultimately interacting with each other. These computers and software are provisioned by the end-users themselves independently of transmission. Furthermore they are general purpose resources, used for a variety of functions, including, but not limited to, voice communication.

The ACTA Petition also asks that an order be issued to stop provisioning of Internet phone hardware and software. No special purpose hardware is needed for voice communication over the Internet, but rather, general purpose sound digitization and generation hardware is used. Increasingly, desk top personal computers come equipped with such hardware as standard equipment. Software facilitating such communications is globally available, both through a multitude of vendors and as shareware or freeware.

In contrast to this Internet environment, tariffed and certified telephone carriers provide dedicated end-to-end service for a fee to their subscribers. A consistent business model applies across common carrier telephone networks. As such, subscribers can depend upon availability of specified service offerings and minimum level of service, which carriers can use in calculating tariffs and defending them in public hearings.

No. of Copies rec'd 0
List ABCDE

Within the Internet no entity plays the role of the tariffed and certified telephone carrier, and there is no consistent Internet business model. The Internet is a framework in which a variety of commercial provider backbones and numerous dedicated leased lines tie together switching and routing resources, private networks and individual computer nodes. The sole capability of the Internet fabric is to route data packets. No entity owns even a sizable fraction of the fabric of the Internet, and most forward packets from any source. There is no means currently to charge by the packet or on the basis of the distance the packet travels, nor is there an ability in the Internet to establish end-to-end circuits. Packet delivery is on a best effort basis. There is no expectation of minimal level of service: performance varies unpredictably due to traffic parameters which are beyond the ability of any Internet participant to control.

Thus in the Internet, voice communication capability is only one possible use of a general purpose data communications infrastructure. Furthermore, it is a user-provisioned capability and is clearly not a service provided by a common carrier or other central entity capable of regulation in the sense sought by ACTA.

The Future Internet:

The National Academy of Sciences describes the current period as "the Unpredictable Certainty". In its publication of the same name, they write that...

"The national information infrastructure (NII) is the collection of all public and private information services -- both facilities- and content-based -- operating as a complex, dynamic system. It exists today but is and always will be in a state of flux." p. 4

The FNC believes that regulatory intervention in the Internet's evolution could have significant detrimental effects upon the Internet achieving its potential as the backbone of the National Information Infrastructure / Global Information Infrastructure (NII/GII). Regulation in the early stages of promising new communications technologies has historically resulted in delaying their development and deployment.

As described above, voice traffic is one of a growing number of services available over the Internet and is indistinguishable from many related services, including Distance Learning applications, video conferencing, and multicast transmissions. These applications are considered by industry, academia, the education community, and others as fundamental components of their future operating environments.

Furthermore, the Internet of today and tomorrow is global in scope and use. Actions taken in the United States to regulate the use of one type of service would have little effect upon its use in the rest of the world. Furthermore, such actions would, ineffect, lead to an erosion in the United State's leadership in this important technology.

The FNC therefore urges the FCC to deny the ACTA petition, and instead, seek out mechanisms for promoting the development of these promising emerging technologies.

Regards,

A handwritten signature in black ink, appearing to read "G. Strawn", written in a cursive style.

George Strawn
Co-Chair
Federal Networking Council